

## **SECTION FOUR**

### **FORMATIVE EVALUATION**

#### **4.1 Introduction: Overview of Formative Evaluation**

The Subject Matter Experts (SMEs) reviewers included Senior Information Architects and a Director of User Experience. There were one-on-one reviews by a Writer and Editor and Technical Writer that were completed. Then a pilot test including one-on-one reviews by Chief Executive Officer, Product Designer, Inventor, and Project Manager that were completed. For quality-control purposes, the formative evaluation was performed for this Instructional Design Plan and the online Information Architecture tutorial.

During the phases of development, feedback was provided on the online IA tutorial via email when work was completed to provide a superior, meaningful, and unique user experience for learners. After the online IA tutorial went online, complete reviews were done. Feedback was sent back via email communications or completed at the researcher's office in San Francisco, California USA.

**4.2 Subject Matter Expert Review and Feedback—  
from Senior Information Architect**

**Mr. Christian Crumlish**

**Professional Qualifications:**

**Senior Information Architect, Consultant (Oakland USA)**

**Contact:** [xian@well.com](mailto:xian@well.com)

**Mr. Christian Crumlish's Bio**

[http://www.iasummit.org/proceedings/2008/crumlish\\_christian](http://www.iasummit.org/proceedings/2008/crumlish_christian)

Mr. Christian Crumlish has been designing and writing about shared information spaces since 1994. He is the curator of the Yahoo! pattern library and is director of technology for the Information Architecture Institute. He studied philosophy at Princeton and painting at the San Francisco School of Art. He is the author of, most recently, *The Power of Many: How the Living Web is Transforming Politics, Business, and Everyday Life* (Wiley, 2004), and he is writing a book about online presence and identity, tentatively entitled *Presence of Mind*. He lives in Oakland, California, with his wife, Briggs, and his pussycat, Fraidy.

The researcher's first contact was made with reviewer around **April 1, 2008**. However, he has been the researcher's mentor for a few years and given advice to researcher. On **April 19, 2008**, Mr. Christian Crumlish, Senior Information Architect, did his review, using email on **April 19, 2008 6:19:19 PM PDT** (enclosed on CD and part of Appendix C). He gave good and positive feedback that the Online Information Architecture Tutorial was accurate in presenting appropriate ideas and concepts about

Information Architecture to students and that the content was accurate with regard to Information Architecture, including instructional design strategies—he said:

“I’ve reviewed the first module. It looks pretty good!

It does a good job of introducing Information Architecture concepts to a student, and offers numerous modes of communication, including illustrations, links, diagrams, and citations from authoritative sources [his suggestion was to make minor edits].

Overall, it seems to be an excellent courseware module and a solid introduction to the topic of Information Architecture.”

- **What changes did researcher make per his review?**
  - The changes the researcher made were simple edits of text and for superior congruency as well as for enhanced user-centered design.

**4.3 Subject Matter Expert Review and Feedback—  
from Director of User Experience, Senior Information Architect**

**Ms. Natalie Buda**

**Professional Qualifications:**

**Director of User Experience, Senior Information Architect (McLean, VA USA)**

**Contact:** [nbuda@navigationarts.com](mailto:nbuda@navigationarts.com)

**Ms. Natalie Buda's Bio**

<http://www.navigationarts.com/>

Ms. Natalie Buda is Director of User Experience at NavigationArts. As “Architects of the User Experience,” NavigationArts provides professional services to help clients plan, evaluate, design, and develop effective Websites, intranets, portals, and rich Internet applications. NavigationArts is a firm that specializes in Information Architecture and User Experience Design (source: <http://www.navigationarts.com/>):

The researcher's first contact was made with reviewer around **April 1, 2008**. On April 24, 2008, the reviewer gave her feedback, using email on **April 24, 2008 12:17:37 PM PDT** (enclosed on CD and part of Appendix C).

- She said: “Great stuff!” For the most part, she thought the tutorial was good. She recommended making some minor editorial changes. She thought the panel on the left side should be linked to another module. She suggested making some minor edits in Section 1.5-1.6 to explain that wire frame mockups are done in step 4 of The IA Model.

- The researcher agrees that when the tutorial is built out—it might be linked as an image map. In truth and using good user-centered design principles, the pull-down menu tells end users where they are located in the online IA tutorial. The primary function of the note card is to let learners know what step they are on, as it reinforces learning and retention for visual-based learners. The researcher believes that it reinforces the subject matter with a note card that remains constant for each tutorial. The pull-down menu and header works effectively for learners or end user to surf between Modules 1-8.
- She wanted to know why the researcher did not recommend Internet Explorer for learners and end users.
  - The researcher indicated “best choices” for browsers for learners and end users. In reality, Internet Explorer could be used. The researcher concluded it was “best viewed” using the Safari browser. The researcher did usability testing, and concluded it works best in Safari.
- She felt the stories should be about “business challenges” and not “individuals.”
  - The researcher agrees with what she said. The stories are about “business challenges” in the context of individuals. The researcher felt that stories about individual Information Architects were better suited to the online IA tutorial.
- She felt that “up-front research” regarding **1. Design Research** did not include wire frame mockups or other deliverables.
  - The researcher agrees with what she said. However, that is not actually what was stated in the online IA tutorial. Concepts about Information Architecture deliverables are spoken about because this online IA tutorial introduces concepts about Information Architecture design. To reinforce

the learner's learning of instructional materials, other items and planning are discussed early on to reinforce other modules for learners, scaffolding and building on learning events.

- **Conclusion:** The reviewer made valid points. The researcher did review the online IA tutorial and made edits. The researcher added in specific instructions in Sections 1.5-1.6 that wire frame mockups are done in step 4 of The IA Model. The researcher added in appropriate headers on the left-side panel—table (Module Resources and Website Tools). The audiences for the online IA tutorial are mainly Corporate Trainers and/or Instructional Designers, or other professionals. She said, “Information Architecture or Navigational Systems does not have the same impact as technology choices.” My opinion is that Information Architects “structure, organize, and implement user-centered design concepts” for Websites. This helps to create digital design products that work effectively online for the client's business plan requirements and end users' needs. The researcher agrees with her that technology is important; however, Information Architecture and technology go hand-in-hand—both are as equally important to Websites and learners.

**4.4 One-on-One Review and Feedback—  
from Writer, Editor**

**Ms. Megan Descalso (San Francisco, CA USA)**

**Professional Qualifications:**

**Writer, Editor**

**Contact:** [non\\_stoptigga415@yahoo.com](mailto:non_stoptigga415@yahoo.com)

The researcher's first contact with reviewer was made around **April 1, 2008**, in person. We consulted again on **April 23, 2008**, (evening hours) to do a formal one-on-one review at my office in San Francisco, CA USA. She gave this review and feedback—she stated:

I reviewed his Thesis Report with regard to the needs assessment process, analysis process, instructional information sequence, use of learning events and activities, the interactive instructional online IA tutorial, and his completed usability assessments from the other reviewers. The online IA tutorial looks fine to me.

His work in his Thesis Report and detailed analysis, instructional design goals and objectives, and online IA tutorial are on target. The tutorial works well for delivery of instructional materials, including online quiz. I suggested he review headers, other items, and make some minor edits. He used citations to substantiate his research about Information Architecture.

- **Conclusion:** The researcher worked on making the headers in the Thesis Report more specific, and added in diagrams to lessen the reader's and/or learner's cognitive load—to make learning about The IA Model easier to comprehend (enclosed on CD and part of Appendix C).

**4.5 One-on-One Review and Feedback—  
from Technical Writer**

**Mr. Raymond Angelo (San Francisco, CA USA)**

**Professional Qualifications:**

**Technical Writer at SUN Microsystems**

**Contact:** [Raymond.Angelo@Sun.com](mailto:Raymond.Angelo@Sun.com)

The researcher's first contact with reviewer was made around **April 1, 2008**, via email (and **prior to April 1, 2008**). We consulted again on **May 3, 2008**, to do a formal one-on-one review, using email on **May 3, 2008 6:11:01 PM PDT** (enclosed on CD and part of Appendix C)—he said:

Steven,

Thanks for giving me the opportunity to review your tutorial. I'm really impressed with the site. It's got a very professional look and feel to it. I'm impressed by the strong visual/graphic contrast. It helps to differentiate areas of the tutorial. I also liked that you employed an engaging and reassuring writing style. It fits with the intended audience. It's a smart move, because the subject matter and the scope of the tutorial could be perceived as a little intimidating to a beginner. For someone like me, who has little to no experience with this subject matter, the writing style was comforting. I felt at ease embarking on the tutorial. Nice work.

Really well done!

Ray

**4.6 Pilot Test and Review—  
from Product Designer, Inventor, Small-Business Owner, Project Manager  
Ms. Deborah A. Jacobs, Chief Executive Officer (San Francisco, CA USA)**

**Professional Qualifications:**

**Chief Executive Officer**

**Product Designer, Inventor, Small-Business Owner, Project Manager at Widgetry**

**Contract:** [widgetry@mindspring.com](mailto:widgetry@mindspring.com)

**Ms. Deborah A. Jacobs' Bio**

Ms. Deborah A. Jacobs is a project manager with work-related experience in corporations and as a consultant—a small-business owner, Chief Executive Officer at Widgetry. Her previous academic experience includes a BA in Product Design, and training in other design-related fields, including Website design. She has taken additional courses and has a strong emphasis on cultural change within preexisting and new structures, including two U.S. Utility Patents on her products.

The researcher's first contact was made around **April 1, 2008**. We did the review for usability testing, evaluation and walkthrough of the online IA tutorial, and the pilot test review. The pilot test was completed at my office in San Francisco, CA USA. It took place from approximately **8 a.m. to approximately 11:30 a.m., on April 21, 2008**, including feedback from emails throughout the duration of this project (**May 5, 2008 12:29:10 PM PDT**; enclosed on CD and part of Appendix C). She also spent additional time providing feedback when it was required.

The reviewer was selected because she has a “learning disability,” and her feedback provides pertinent details on how to deal with “accessibility issues” as well as “user-centered design” issues. Her knowledge base of understanding how to create and implement “change within preexisting and new structures” relates to Information Architecture because Information Architects “structure” information on Websites, and/or on other digital design products.

- **Production planning process, storyboards, scripting, and outline of textual information—**
  - **Feedback:** She stated, his production planning process, storyboards (wire frame mockups) and outline of textual information were successfully accomplished and documented in the Thesis Report.
  
- **Consistency of layout and format—**
  - **Feedback:** She stated, overall, the Web-page design is very consistent. “Layout and format on Web-page design is very clean, a crisp format, including sharp document design for all the PDF documents. The font choice for online IA tutorial is an excellent choice (Verdana) because it helps make text on a Web page more readable. The font and spacing helps learners and end users to better use this tutorial.”
  
- **Organization of navigational displays—**
  - **Feedback:** The organization and navigational displays are excellent. The reviewer gave these suggestions for improvement (realizing Web-page design constraints). The front-end (title page) of the Thesis Report should include a diagram that represents a visual guide and/or representation of The IA Model (eight steps) for visual-based learners. She suggested using the example as though it was a “mall-map” at the macro level to represent the “helicopter view to learners” (visual guide diagram), including that it

could be included as the diagram in the tutorial (Figure 2) that states “you are here” on the diagram.

- She indicated, the researcher covered the language-based information in the Thesis Report and online IA tutorial, but she felt researcher should support the visual-based learner by using a diagram on the title page to show the steps in The IA Model. In addition, showing a visual diagram (small version of diagram in Section 1.1) with a PDF document (large version) for download (because a large diagram does not fit in the allotted space). However, at the onset of developing the online IA tutorial, she suggested and recommended providing learners with a syllabus (the syllabus can also be refined at a later date for teaching Information Architecture and usability testing at a university).

- **Accessibility of information—**

- **Feedback:** She stated that the online IA tutorial provides excellent user-centered design examples to learners because user-centered design principles were incorporated into the online IA tutorial. The reviewer felt the “mall-map” diagram usage should be included (macro- to micro-levels) to improve the learner’s ability to absorb and learn concepts about Information Architecture and usability testing. She agreed that in any type of design work on projects: “research to final implementation is an iterative and fluid process.”

- **The appropriate use of fonts and white space—**
  - **Feedback:** She stated that the researcher designed and implemented into Web-page designs a very readable font, crisp, consistent layout style, and enough white space to give learners enough “pauses” in a paced-manner to better comprehend the information (to lessen the learner’s cognitive load). In reviewing the researcher’s overall interface design, her impression was that the researcher’s mastery of user-centered design principles and interface design is excellent. She stated that it gave her “comfort” to be successfully guided through the tutorial. In other words, navigational systems, text, contextual elements were appropriate for learners and goals in the Instructional Design Plan.
  
- **The appropriate use of graphic interface organizers and color-coding—**
  - **Feedback:** She stated that the researcher used appropriate graphic organizers and color-coding to guide the learners in learning about Information Architecture, using his online IA tutorial. In addition, the reviewer suggested adding in to all diagrams (The IA Model) “you are here” diagram to be included on Figure 3 in the tutorial. She stated, the “mall-map concept” (macro- and micro-level correlations) should be used to improve user-centered design for the Thesis Report and online IA tutorial.

- Her thoughts were that the “mall-map” is at the macro-level and the “you are here” is a micro-level informational graphics to guide and provide learners with superior online learning experiences. She thought that if some minor changes were made to the online IA tutorial and title page of Thesis Report, the researcher’s products would include better user-centered design concepts and superior functionality, usability for learners—to lessen the cognitive load for learners—and to balance between the language-based learner compared to a visual-based learner.
- Her thoughts were that adding in these diagrams strengthens “left-right-brain interactions” to make for holistic or ergonomically designed (human-factors centered interface design) online learning experiences, though these modifications are minor. As this relates to “mental cognition and the mental/psychological” aspects of learners, she felt this is significant to learners because using both left- and right-brain hemispheres promotes whole-mind-body learning experiences. In addition, “mall-map diagrams” were added into the Thesis Report for each step of The IA Model.
- The reviewer recognizes significant parallels in structure, with regard to how Information Architecture and usability testing overlap and overlay with product design and final implementation of Websites and/or digital design products, including product design products. This relates to the researcher’s information in his White Paper, which is included in the online IA tutorial.
- The reviewer holds two U.S. Utility Patents and suggests that the researcher pursue securing “intellectual property rights through copyrighting his Information Architecture designs and theories (and how these items are applied to Websites and/or digital design products), navigational systems designs, and concepts.”

- She recommended consulting with Mr. David Pressman, Esq., Patent Attorney, about patents. He is a well-known author of a book on copyrights, patents, and trademarks. Therefore, the researcher is *now* applying for patents and finding out about what needs to be done to obtain patents, intellectual property rights, and copyrights for all his Information Architecture and navigational systems conceptual designs, and applications for Websites.
- The reviewer felt that adding in some simple modifications would enhance and produce an omni-directional experience for learners and end users. Her feedback was very positive and informative, helping the researcher to gain clarity on making his design products better.
  - She felt the researcher’s “information and content development were accurate with regard to Information Architecture, navigational system, and usability.”
  - **Changes made:** The researcher added in The IA Model diagram to his title page, Thesis Report, online IA tutorial, including “you are here” on Figure 3 (in the tutorial). Other diagrams were also added onto the Thesis Report for all the steps of The IA Model.
- **Conclusion:** The reviewer stated, through analysis of the researcher’s work, it is congruent with her experiences in regard to using Websites. The researcher’s knowledge base of Information Architecture, usability testing, and navigational systems speaks to the importance, significance, of user-centered design. His research is extremely coherent, valid, and valuable regarding Information Architecture concepts and inventions on navigational systems.

- The reviewer noted that the researcher used journal articles in his Thesis Report from empirical-based research about Information Architecture, teaching, the learner's process of learning, design-related topics, usability issues, and user-centered design concerns. Her remarks about his research were extremely positive, with reference to the researcher's citations used in his Thesis Report from journal articles (see bibliography).